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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,321	09/20/2003	Patrick H. Buffet	BUR9-2000-0229US2	6241
46170	7590	05/25/2005	EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON, P.C. 11491 SUNSET HILLS ROAD, SUITE 340 RESTON, VA 20190			NGUYEN, VINH P	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,321

Applicant(s)

BUFFET ET AL.

Examiner

VINH P. NGUYEN

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0903.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2829

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

- A) species in which claims 1-5 are drawn to,
- B) species in which claims 6-14 are drawn to,
- C) species in which claims 15-18 are drawn to and
- D) species in which claims 19 is drawn to.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, it appears that no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to

be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. Whitham on 05/20/05, a provisional election was made with traverse to prosecute the invention of species A, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (pat # 5,889,408) in view of Gattiker et al (pat # 6,175,244).

As to claim 1, Miller discloses a method for IDDQ testing as shown in figure 3 having step of activating an IDDQ (by biasing a semiconductor device), measuring an amount of IDDQ defect current (by measuring a first IDDQ value, unbiasing the semiconductor device,

measuring second IDDQ value and determining the IDDQ defects (by comparing the first and second IDDQ values to determined if a defect exist). It appears that the semiconductor device under test of Miller inherently has terminals (pins or contact pads) so that the bias signals are applied to the device under test. Furthermore, it is known that that the semiconductor device of Miller has a substrate and a plurality of terminals (contact pads) arranged on a surface of the substrate and areas bounded by a plurality of terminals. Furthermore, Miller et al is silent about the location of the defects. However, Gattiker et al teach that it would have been well known to determine the location of defects (see column 1, lines 49-53). It would have been obvious for one of ordinary skill in the art to modified the device of Miller by determining the location of defects as taught by Gattiker et al so that the test yield is obtained more accurately.

As to claim 2, it appears that every semiconductor device has a plurality of subsections and a plurality of terminals (contact pads) are provided to those subsections

5. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not disclose the step of determining the defects based on a ratio between an amount of IDDQ defect current forwarded toward one of the terminals provided for the selected subsection and an amount of a sum of the IDDQ defect current measured at the

terminals bounding the area and the step of determining which row of the selected subsection includes the IDDQ defect based on a ratio between an amount of a sum of the IDDQ defect current measured at the terminal provided for the selected subsection and at a first neighboring terminal provided for one of the subsection arranged on the same row with the selected subsection and (b) the amount of the sum of the IDDQ defect current measured at the terminals bounding the selected area and a detailed determining the defective column.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Paapert e al (pat # 5,929,650) disclose method and apparatus for performing operative testing on an integrated circuit.

Reynick (Pat # 6,714,032) disclose integrated circuit early life failure detection by monitoring changes in current signatures.


Miller (Pat # 6,239,605) discloses method to perform IDDQ testing in the presence of high background leakage current.

Miller (Pat # 6,239,606) discloses method to perform IDDQ testing in the presence of high background leakage current.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is 571-272-1964. The examiner can normally be reached on 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VINH P NGUYEN
Primary Examiner
Art Unit 2829
05/23/05